3.3 BIOLOGY

This section describes the existing biological resources within the project study area. Biological resources analyzed in this section include natural habitats, sensitive species, and other important resources with the potential of being affected.

The information in this section is based on the *SR-22/West Orange County Connection Natural Environment Study (NES)* (December 2000) and the *Reduced Build Alternative NES Addendum* (December 2000). For a more detailed analysis, these documents are available under a separate cover for review at Caltrans and OCTA.

3.3.1 Vegetation

The existing SR-22/West Orange County Connection corridor is vegetated primarily with exotic (non-native) species used in southern California landscaping and freeway rights-of-way. Plant species observed in the study area are listed in Table 3.3-1.

Table 3.3-1
Plant Species Observed in the Study Area

Common Name	Scientific Name
acacia	*Acacia* sp.
California pepper	*Schinus molle*
California sycamore tree	*Platanus racemosa*
castor bean*	*Ricinus communis*
Chinese elm	*Ulmus parvifolia*
coast live oak tree	*Quercus agrifolia*
eucalyptus	*Eucalyptus* sp.
fan palm	*Washingtonia* sp.
fennel	*Foeniculum vulgare*
fountain grass*	*Pennisetum setaceum*
giant reed*	*Arundo donax*
horseweed	*Conyza canadensis*
Hottentot fig	*Carpobrotus edulis*
ice plant	*Mesembryanthemum crystallinum*
jacaranda	*Jacaranda mimosifolia*
mulefat	*Baccharis salicifolia*
mustard*	*Hirshfeldia incana*
oleander	*Nerium oleander*
pampas grass	*Cortaderia selloana*
pine	*Pinus* sp.
red brome	*Bromus madritensis* ssp. *rubens*
tree tobacco	*Nicotiana glauca*
wild oat	*Avena* sp.
willows	*Salix* sp.

* On California noxious weeds list (CDFA, 2000)

Most drainages in the study area are entirely lined by concrete channels. The SR-22 overcrossing at the Santa Ana River supports a sand bottom, with only ruderal and exotic vegetation. Vegetation at the SR-55 crossing over Santiago Creek, which has rocky/gravel channel bed, includes mulefat, a native species, although invasive ruderal species including giant reed, castor bean, fennel, eucalyptus, tree tobacco, and wild oat dominate the area. Due to the relative lack of native riparian species, the quality of riparian habitat in this area is low. Three mature coast live oak trees occur north of the Santiago Creek/SR-22 overcrossing, in addition to several mature California sycamore trees and willows. Although

California sycamores and willows are riparian species, and sycamores are associated with riparian woodland habitat, other vegetation is sparse, and is associated with several non-native species including fennel, giant reed, fan palm, fountain grass, common horseweed, and eucalyptus. Thus, this is very low-quality riparian habitat and would not be characterized as riparian woodland.

The City of Orange has an Oak Tree Preservation Ordinance to regulate large-scale tree removal from undeveloped property. The County of Orange has no similar tree protection or preservation ordinance and no other similar local ordinances exist in other local jurisdictions within the project area.

A. INVASIVE SPECIES

In the Santiago Creek area, the following plants occur which are considered as invasive or noxious weeds, per California's noxious weeds list (CDFA, 2000):

- Castor bean
- Giant reed
- Fountain grass
- Mustard

The sandy and gravelly soils of Santiago Creek are conducive to the further spread of these invasive species. Plant species in the project area outside of Santiago Creek are limited to the existing freeway and former railroad rights-of-way and channelized river crossings, where some form of weed control is conducted.

3.3.2 Wildlife

The sparse nature of riparian vegetation in the study area limits its potential to support a diverse array of wildlife species (Table 3.3-2). Amphibians native to southern California that may be present in the gravel/sandy bottom channels of the study area at Santiago Creek and Santa Ana River include western toad and Pacific treefrog, as well as the non-native bullfrog and African clawed frog. Some native reptiles, including side-blotched lizard, western fence lizard, gopher snake, and common kingsnake, may occur in the study area, as they do in many suburban open space areas of southern California; none were observed during surveys.

Birds observed during surveys included several year-round residents such as mourning dove, spotted dove, Anna's hummingbird, western scrub-jay, northern mockingbird, European starling, house finch, and house sparrow. Raptors that may make use of the study area include red-shouldered hawk, red-tailed hawk, American kestrel, and great horned owl. Other species that may roost and feed in the study area during the winter months include yellow-rumped warbler and white-crowned sparrow. Birds observed during surveys at the Los Alamitos Channel, located adjacent to the study area, included snowy egret, great egret, great blue heron, black-necked stilt, killdeer, mourning dove, and black phoebe. White-throated swifts reportedly nested in recent years at the SR-55 bridge over Santiago Creek (Newkirk, 1999).

Native mammal species expected to occur in the study area and its vicinity include coyote, striped skunk, and raccoon. Non-native mammals in the study area include red fox, eastern fox squirrel or red squirrel, domestic or feral cat, Virginia opossum, Norway rat, and house mouse. Because most of these mammals are nocturnal, none were observed during field surveys. The big brown bat and Mexican free-tailed bat are reported by Caltrans to nest under the bridge at the SR-55 crossing over Santiago Creek (Newkirk, 1999). These species were not observed during the field surveys, but the nocturnal and secretive nature of these species means they may be present. Also, these migratory species are not present throughout the year or every year at historic nesting sites.

Table 3.3-2
ANIMAL SPECIES THAT MAY OCCUR IN THE STUDY AREA

Common Name	Scientific Name	Comments
Amphibians		
African clawed frog	*Xenopus laevis*	May be present in the study area
bullfrog	*Rana catesbiana*	May be present in the study area
common kingsnake	*Lampropeltis getulus*	May be present in the study area
gopher snake	*Pituophis melanoleucus*	May be present in the study area
Pacific treefrog	*Pseudacris regilla*	May be present in the study area
side-blotched lizard	*Uta stansburiana*	May be present in the study area
western fence lizard	*Sceloporus occidentalis*	May be present in the study area
western toad	*Bufo boreas*	May be present in the study area
Birds		
American kestrel	*Falco sparverious*	May make use of the study area
Anna's hummingbird	*Calypte anna*	Observed during surveys
black-necked stilt	*Himantopus mexicanus*	Observed during surveys at the Los Alamitos Channel
black phoebe	*Sayornis nigricans*	Observed during surveys at the Los Alamitos Channel
European starling	*Sturnus vulgaris*	Observed during surveys
great blue heron	*Ardea herodias*	Observed during surveys at the Los Alamitos Channel
great egret	*Casmerodius albus*	Observed during surveys at the Los Alamitos Channel
great horned owl	*Bubo virginianus*	May make use of the study area
house finch	*Carpodacus mexicanus*	Observed during surveys
house sparrow	*Passer domesticus*	Observed during surveys
killdeer	*Charadrius vociferus*	Observed during surveys at the Los Alamitos Channel
mourning dove	*Zenaida macroura*	Observed during surveys
northern mockingbird	*Mimus polyglottos*	Observed during surveys
red-shouldered hawk	*Buteo lineatus*	May make use of the study area
red-tailed hawk	*Buteo jamaicensis*	May make use of the study area
snowy egret	*Egretta thula*	Observed during surveys at the Los Alamitos Channel
spotted dove	*Streptopelia chinensis*	Observed during surveys
western scrub-jay	*Aphelocoma californica*	Observed during surveys
white-crowned sparrow	*Zonotrichia leucophrys*	May roost and feed in the study area during winter
white-throated swift	*Aeronautes saxatalis*	Nested in recent years at the SR-55 bridge over Santiago Creek
yellow-rumped warbler	*Dendroica coronata*	May roost and feed in the study area during winter
Mammals		
big brown bat	*Eptesicus fuscus*	Nest under the bridge at the SR-55 crossing over Santiago Creek
coyote	*Canis latrans*	Native, expected to occur in study area
domestic and feral cat	*Felis domesticus*	Non-native, expected to occur in study area
eastern fox squirrel or red squirrel	*Sciurus niger*	Non-native, expected to occur in study area
house mouse	*Mus musculus*	Non-native, expected to occur in study area
Mexican free-tailed bat	*Tadarida brasiliensis*	Nest under the bridge at the SR-55 crossing over Santiago Creek
Norway rat	*Rattus norvegicus*	Non-native, expected to occur in study area
raccoon	*Procyon lotor*	Native, expected to occur in study area
red fox	*Vulpes vulpes*	Non-native, expected to occur in study area
striped skunk	*Mephitis mephitis*	Native, expected to occur in study area
Virginia opossum	*Didelphis virginiana*	Non-native, expected to occur in study area

A. WILDLIFE DISPERSION

A wildlife corridor is a large patch of habitat connecting two or more larger areas of habitat, which is essentially free of physical barriers such as fences, walls, and developed areas. A functioning wildlife corridor provides habitat that allows for ease of movement between habitat patches. Corridors function to prevent habitat fragmentation that would result in the loss of species that require large contiguous expanses of unbroken habitat and/or that occur in low densities. Habitat fragmentation can reduce the rate of reproductive success. Corridors promote gene flow, allow recolonization of areas following catastrophic events.

The project study area crosses several potential wildlife corridors in the form of drainages. The drainages are typically surrounded by residential, commercial, and industrial development and streets, and aside from developed suburban parks, areas of native open space are rare in the study area. Most of these drainages are channelized and generally support little native vegetation. Those that are not channelized in the vicinity of the crossings are channelized either just upstream or downstream, decreasing their ability to act as wildlife corridors. The Los Alamitos Channel/San Gabriel River, located adjacent to the I-605 portion of the project, is very wide and vegetated, and does represent an important wildlife corridor.

3.3.3 Species of Concern

Species listed as endangered and threatened by the United States Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA) are protected under Section 9 of the act, which forbids any person to "take" an endangered or threatened species, which includes harming an individual of the species or its habitat. The U.S. Supreme Court ruled in 1995 that the term "harm" includes destruction or modification of habitat. Sections 7 and 10 of ESA may authorize "incidental take" for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize the species' survival or recovery.

The California Endangered Species Act (CESA), enacted in 1970, was designed after ESA and is intended to provide additional protection to endangered and threatened species in California. The definition of "take" under CESA does not include "harm" or "harass" and no provisions to protect habitat are included.

Because the study area supports some native plant species but no native plant communities, and because of the high level of human disturbance, no sensitive plant or wildlife species are expected to occur in the study area. In addition, no potential habitat is present for sensitive species that occur elsewhere in the study area vicinity or region. Some sensitive species that may occasionally occur in the project vicinity are discussed below, but these species would be visitors to the study area at most. Information on the listing status and potential for occurrence in the study area for these and other species is summarized in Table 3.3-3.

3.3.4 Biological Coordination

Caltrans and OCTA have been working to provide information for the Section 404 of the Clean Water Act permit(s) process. Caltrans has been in contact with the Corps regarding permitting for the project elements. Specifically, a draft NEPA/Section 404 Permit Process Determination Preliminary Information Package was prepared for review and submitted to Caltrans on February 6, 1998, and supplemental information was provided to Caltrans in July and October 1999. Caltrans discussed the issues with the Corps and received a preliminary determination that the project would be consistent with existing nationwide Section 404 permits (Vega, 1999). The Section 404 Memorandum of Understanding (MOU) process was not applied because of the anticipated applicability of a nationwide 404 permit.

CDFG will be contacted regarding the need for Lake/Streambed Alteration Agreements for the project after certification of the Final EIR/EIS. CDFG and USFWS were contacted regarding the potential for sensitive species within the study area . Finally, the County of Orange Nature Reserve was researched to determine whether any of the study area (area of direct effect) or area of indirect effect is located within

the boundaries of the Nature Reserve Natural Communities Conservation Plan (NCCP) area (Orange County, 1996). No areas of direct or indirect effect are located in the vicinity of the Nature Reserve of Orange County.

The USFWS provided Caltrans with a list of Federally Listed and Proposed Species and Critical Habitat Which May Occur in the Area of State Route 22, Orange County, California (March 16, 2001). The sensitive species provided in this list have been included in Table 3.3-3 with the USFWS species list included in the appendices. There is no suitable habitat provided for these species within the project area. Therefore, these species would not have the potential to occur within the project area.

A. MIGRATORY BIRD TREATY ACT

The federal Migratory Bird Treaty Act (MBTA), first enacted in 1916, prohibits any person to: "pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase . . ." any migratory bird without a special permit from the USFWS. The Act also applies to parts of migratory birds, occupied nests, and eggs.

B. CALIFORNIA FISH AND GAME CODE SECTIONS 4150 – 4154

California Department of Fish and Game's (CDFG's) regulations address how nongame mammals may be taken. Nongame mammals include all mammals occurring naturally in California that are not game mammals, fully protected mammals, or fur-bearing mammals. These sections allow CDFG to enter into cooperative agreements with agencies of the state or the United States for the purpose of controlling nongame mammals.

C. CALIFORNIA CODE OF REGULATIONS, TITLE 14, NATURAL RESOURCES

Under the provisions of Section 251.1, Harassment of Animals, no person is allowed to harass any game or nongame bird or mammal or fur-bearing mammal, except as otherwise authorized by regulations (such as under Section 4150 through 4154, above). Harassment is defined as an intentional act that disrupts an animal's normal behavior patterns, which includes breeding, feeding, or sheltering.

Table 3.3-3
SENSITIVE SPECIES THAT MAY OCCUR IN THE REGION

Species	Protection	Preferred Habitat	Potential for Occurrence in Project Area
Plants			
Braunton's milk-vetch *Astragalus brauntoni*	USFWS-FE CNPS-1B	chaparral, coastal sage scrub	None – No habitat
Thread-leafed brodiaea *Brodiaea filifolia*	USFWS-FT CDFG-CE CNPS-1B	oak woodland, coastal sage scrub	None – No habitat
Plummer's mariposa lily *Calochortus plummerae*	CNPS-1B	chaparral, oak woodland, coastal sage scrub	None – No habitat
Santa Monica Mountains dudleya *Dudleya cymosa* ssp. *ovatifolia*	USFWS-FT CDFG-CE CNPS-1B	talus slopes, north-facing cliffs in chaparral	None – No habitat
Many-stemmed dudleya *Dudleya multicaulis*	CNPS-1B	chaparral, coastal sage scrub	None – No habitat
Palmer's grapplinghook *Harpagonella palmeri*	CNPS-2	chaparral, coastal sage scrub	None – No habitat

Table 3.3-3
SENSITIVE SPECIES THAT MAY OCCUR IN THE REGION
(Continued)

Gambel's water cress *Rorippa gambellii*	USFWS-FE CDFG-CE CNPS-1B	freshwater or brackish marshes and swamps, lake margins, along slow-flowing streams	None – No habitat
Animals			
Quino checkerspot butterfly *Euphydryas editha quino*	USFWS-FE	coastal sage scrub, grassland	None – No habitat
Arroyo southwestern toad *Bufo microscaphus californicus*	USFWS-FE CDFG-CSC	oak woodland, riparian habitats	None – No habitat
California red-legged frog *Rana aurora draytoni*	USFWS-FT CDFG-CSC	riparian habitats associated with deep, still or slow-moving water	None – No habitat
Western spadefoot *Scaphiopus hammondii*	USFWS-FE CDFG-CSC	riparian habitats and ponds	None – No habitat
California legless lizard *Anniella pulchra*	CDFG-CSC	chaparral, oak woodland, riparian (sandy soils)	None – No habitat
Coast horned lizard *Phrynosoma coronatum*	CDFG-CSC	coastal sage scrub, chaparral	None – No habitat
Coast patch-nosed snake *Salvadora hexalepis virgultea*	CDFG-CSC	coastal sage scrub, chaparral	None – No habitat
Two-striped garter snake *Thamnophis hammondii*	CDFG-CSC	riparian habitats	Very low (requires substantial permanent sources of water)
Western pond turtle *Clemmys marmorata*	CDFG-CSC	reservoirs, riparian habitats	Very Low (may wash down during storms)
White-tailed kite *Elanus leucurus*	CDFG-CSC/FP	ruderal (foraging), oak woodland	Low (foraging)
Cooper's hawk *Accipiter cooperii*	CDFG-CSC	woodlands	Moderate (foraging) Low (breeding)
Sharp-shinned hawk *Accipiter striatus*	CDFG-CSC	woodlands	Moderate (foraging) None (breeding)
Osprey *Pandion haliaetus*	CDFG-CSC	reservoirs, rivers	Low (foraging)
Merlin *Falco columbarius*	CDFG-CSC	open woodlands, grassland edges	Low (foraging) None (breeding)
Peregrine falcon *Falco peregrinus*	USFWS-Formerly FE CDFG-CE/FP	many habitats (foraging)	Low (foraging) Very low (breeding)
Burrowing owl *Speotyto cunicularia*	CDFG-CSC	ruderal (with friable soils or existing burrows)	None – No habitat
Long-eared Owl *Asio otus*	CDFG-CSC	riparian woodlands	None – No habitat
Southwestern willow flycatcher *Empidonax traillii extimus*	USFWS-FE CDFG-CE**	riparian woodlands	None (except as migrant)

Table 3.3-3 (continued)
SENSITIVE SPECIES THAT MAY OCCUR IN THE REGION

Species	Protection	Preferred Habitat	Potential for Occurrence In Project Area
Animals (continued)			
Coastal California gnatcatcher *Polioptila californica californica*	USFWS-FT CDFG-CSC	coastal sage scrub	None – No habitat
Coastal cactus wren *Campylorynchus brunneicapillus couesi*	CDFG-CSC	coastal sage scrub	None – No habitat
Loggerhead shrike *Lanius ludovicianus*	CDFG-CSC	ruderal habitats, coastal sage scrub	Low (breeding)
Least Bell's vireo *Vireo belli pusillus*	USFWS-FE	riparian woodlands	None – No habitat
California yellow warbler *Dendroica petechia*	CDFG-CSC	riparian woodlands	None (except as migrant)
Yellow-breasted chat *Icteria virens*	CDFG-CSC	riparian woodlands	None – No habitat
Ashy rufous-crowned sparrow *Aimophila ruficeps canescens*	CDFG-CSC	coastal sage scrub, chaparral	None – No habitat
Mountain plover *Charadrius montanus*	USFWS-FPT CDFG-CSC	sparsely vegetated fields and grasslands	None – No habitat
Pallid bat *Antrozous pallidus*	CDFG-CSC	cliffs, rock outcrops	None – No habitat
Townsend's western big-eared bat *Corynorhinus townsendii townsendii*	CDFG-CSC	caves, buildings, other human-made structures	Very low
Spotted bat *Euderma maculatum*	CDFG-CSC	cliff crevices	None – No habitat
California mastiff bat *Eumops perotis californicus*	CDFG-CSC	rock areas, crevices in cliffs and trees	None – No habitat
San Diego black-tailed jackrabbit *Lepus californicus benettii*	CDFG-CSC	open chaparral, coastal sage scrub	None – No habitat
Southern grasshopper mouse *Onychomus torridus ramona*	CDFG-CSC	chaparral, coastal sage scrub	None – No habitat
San Diego desert woodrat *Neotoma lepida intermedia*	CDFG-CSC	coastal sage scrub	None – No habitat
Badger *Taxidea taxus*	CDFG-CSC	oak woodland, coastal sage scrub	None – No habitat
Pacific pocket mouse *Perognathus longimembris pacificus*	USFWS-FE CDFG-CSC	fine-grain, sandy substrates in immediate vicinity of Pacific Ocean	None – No habitat
Santa Ana sucker *Catostomus santaanae*	USFWS-FT CDFG-CSC	permanent flowing streams with areas of coarse gravel	None – No habitat
Southern steelhead *Oncorhynchus mykiss*	USFWS-FE CDFG-CSC	fresh water, ocean	None – No habitat

Table 3.3-3 (continued)
SENSITIVE SPECIES THAT MAY OCCUR IN THE REGION

San Diego fairy shrimp *Branchinecta sandiegonensis*	USFWS-FE	vernal pools	None – No habitat
Riverside fairy shrimp *Streptocephalus woottoni*	USFWS-FE	vernal pools	None – No habitat

Note: **The entire species, not just the subspecies, is listed by the State of California (http://www.dfg.ca.gov/whdab/html/lists.html
ources for sensitive species are as follows:

- California Natural Diversity Data Base, CDFG, Natural Heritage Division for U.S. Geological Survey quadrangle names: Los Alamitos, Anaheim, Orange and Tustin.
- Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik, 1994), California Native Plant Society Special Publication No. 1 (Fifth Edition), Sacramento, CA.
- State and Federally Listed Endangered, Threatened and Rare Plants of California, CDFG, Natural Heritage Division, January 12, 1999.
- United States Fish and Wildlife Service, Sensitive Species List, March 16, 2001

USFWS (U.S. Fish and Wildlife Service)
FE Federally endangered
FT Federally threatened
FPE Proposed for federal endangered species listing
FPT Proposed for federal threatened species listing

CDFG (California Department of Fish and Game)
CE California endangered (protected from hunting)
FP California fully protected
CSC California Species of Special Concern

CNPS (California Native Plant Society)
List 1B plants that are considered rare, threatened or endangered in California and elsewhere
List 2 plants that are considered rare, threatened or endangered in California but more common elsewhere

This page intentionally blank